OAK RIDGE NATIONAL LABORATORY

MANAGED BY UT-BATTELLE FOR THE U.S. DEPARTMENT OF ENERGY

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By the end of this week rf processing of Tank-3 is supposed to begin. During the last week additional leaks (see last weeks and this week report) were found in the EMD drift tubes (nr 23 and 32), this time from the water channel into the tank vacuum. This is more serious since differential pumping is not possible and cooling the drift tubes is necessary for conditioning / operation. A temporary fix included sealing the leaks from the inside with a vacuum sealant. Additional pumping capacity is provided as well. All EMD's in tank 3 were not repaired (the new ones will arrive later this year), but were thoroughly tested before shipping (once in CA at the E-beam welder and then again at LANL before shipping). It is unclear at this point why and how the leaks development and only pulling the DT's would allow further inspection. It was decided to move forward with the temporary fix to enable rf testing on schedule. The DT's will be monitored closely during rf processing.

For the other tanks a more detailed description is attached this week. This will be substantially compressed from here on. Progress is being made on all tank hardware. So far the delivery schedule supports the commissioning of all DTL's beginning December this year.

LANL activity summary:

<u>Tank-1</u>: Rebuilt drift tubes are arriving at LANL at the rate of 6-8 per day for final processing. 20 DT's have arrived in OR. 46 top hats are nearing completion; balance is being plated. Water manifold parts are being gathered for shipping to ORNL.

<u>Tank-4</u>: Interior cavity machining of drive iris halves continues. Plating for equatorial braze is projected to begin the end of next week. 28 additional diverters had sleeve braze completed. Water channel welding of batch A drift tubes were completed at Hanford. Batch A will be shipped to CMI Saturday. Batches B, C & D and B are at Hanford undergoing or awaiting water channel welding. Tank stand is at powder coater.

<u>Tanks –5 & 6</u>: Interior cavity machining of T-5 drive iris halves continues; Ten of the 19 T-5 drift tube bodies have water channels machined. All remaining bodies are ready for cooling channel machining. (4) Eleven sleeves still require final OD machining. All sleeves require diverter hole machining.

<u>Tank -2</u>: Work to machine bodies and sleeves through thermal shrink step has been "broken out" of main contract SOW. It is being procured separately so this work may be started with the next week or two to gain schedule time. Award for the fabrication of a drift tube prototype for qualification of a second machining vendor has been made.

<u>EMD Drift Tubes</u>: All drawings of revised design (incorporating qualified e-beam welds) are complete.

At Oak Ridge the final leak testing of DTL-3, before conditioning, is in progress. Three of the four dipole DT's have air leaks from the interior of the DT (which is vented) to the tank interior. All four of these DT's are currently being differentially pumped.

The DTL-1 tank has been moved from the beam line to the FE building where DT installation will begin late next week. The o-ring on the center flange of the tank was replaced on Thursday in an attempt to repair a vacuum leak. The tank will be re-leak checked this week.

Milestone description	Baseline date	Working Schedule	Number total	Number or % complete	Delta last week
DTL 3 DT's repair	Feb 28 th '03	March 31	27	100%	0
DTL 3 EMDs	Mar 12 th '03	Feb 27	4	100%	0
DTL 3 Dummies	Mar 12 th '03	April 4	2	100%	0
DTL 3 BPM's	Aug 31 st '03		2	0	0
DTL 3 Top hats	Mar 6 th '03	March 13	31	100%	0
DTL 3 postcouplers	Mar 6 th '03	March 31	16	100%	0
Waveguide taper	Mar 13 th '03	March 31	1	100%	0
DTL 3 ready for RF	April 16 th '03	April 25		IPS marker DTL045	
DTL 1 DT's repair	Mar 18 th '03	April 9	7	100%	0
DTL 1 DT's rebuilt	April 17 th '03	April 30	48	20	20
DTL 1 dummies	Mar 27 th '03	April 30	4	0	0
DTL 1 DT's installed	May 1 st '03	Mai 9	100 %	0	0
DTL 1 other parts	April 1 st '03	Mai 2	100 %	0	0
All DTL 1 parts shipped	Mai 20 th '03	June 6	100 %	IPS marker DTL055	0
DTL 1 ready for rf	May 21 th '03	June 16	100 %	IPS marker DTLINK31	